

Running head: EARLY SEXUAL INITIATION AS A PREDICTOR

Early Sexual Initiation as a Predictor of Adolescent Pregnancy:

Practice Recommendations for Nurse Practitioners

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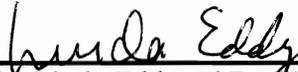
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The members of the committee appointed to examine the project of Alicia Marrah find it satisfactory and recommend it to be accepted.



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## Formatted Abstract

*Purpose*

Nurse practitioners will be able to provide better screening, education, and counseling to adolescents regarding pregnancy prevention if they understand early sexual initiation as a predictor of adolescent pregnancy. This paper focuses on one predictor of adolescent pregnancy found in a review of the literature, early sexual initiation, and uses the Health Belief Model as a theoretical framework to help understand the correlation between early sexual initiation and adolescent pregnancy. With this insight, practice recommendations for nurse practitioners are discussed.

*Data Sources*

The CINAHL, PubMed, PsycInfo, and ERIC databases were used to search literature published in 1997-2007. Governmental and professional websites, as well as texts were used for supporting information to help explain theories and concepts.

*Conclusions*

Despite efforts over the years to prevent adolescent pregnancy it is still a national public health concern. U.S. pregnancy and birth rates have decreased since the 1990s, but we still have the highest rates among the industrialized world. Adolescent pregnancy remains of concern due to the adversities suffered by some adolescents and their children, and its effects on society as a whole. There have been numerous predictors of adolescent pregnancy identified in the literature, including early sexual initiation. Early sexual initiation is becoming more and more prevalent and deserves more attention as we work towards pregnancy prevention in adolescents. The relationship between early sexual initiation and adolescent pregnancy can be explained through the Health Belief Model,

understanding that health-related behaviors such as early sexual initiation can lead to health threats such as adolescent pregnancy. Understanding early sexual initiation as a predictor of adolescent pregnancy and utilizing the practice recommendations in this paper, nurse practitioners can help provide better screening, education, and counseling regarding adolescent pregnancy prevention.

### *Implications for Practice*

Nurse practitioners will better understand early sexual initiation as a predictor of adolescent pregnancy and utilize the practice recommendations within this paper to routinely screen, educate, and counsel all adolescents of reproductive age to include early adolescence aiding in the pregnancy prevention efforts.

### *Keywords*

Keywords used in the search included adolescent pregnancy, adolescent pregnancy predictors, adolescent pregnancy risk factors, adolescent pregnancy prevention, early sexual initiation, early sexual activity, adolescent sexual behavior, and Health Belief Model.

### Abstract

Despite efforts over the decades to prevent adolescent pregnancy, it is still a societal problem. National statistics have shown a decrease in adolescent pregnancy rates over the years, but the U.S. pregnancy rate remains the highest among the industrialized world. There have been many predictors of adolescent pregnancy identified in the literature, including early sexual initiation. This paper examines early sexual initiation as a predictor of adolescent pregnancy using the Health Belief Model as a theoretical framework, and then makes recommendations for nurse practitioners working with adolescents regarding pregnancy prevention.

## Early Sexual Initiation as a Predictor of Adolescent Pregnancy:

### Practice Recommendations for Nurse Practitioners

Adolescent pregnancy is still a societal problem despite efforts over the decades to prevent it. Since 1990, U.S. adolescent birth rates have decreased every year, but despite these decreasing rates, the U.S. adolescent pregnancy rate remains the highest in the industrialized world and continues to be a public health concern (Darroch, Singh, & Frost, 2001). Approximately 900,000 adolescents become pregnant in the U.S. each year (Klein, 2005). According to the *National Vital Statistics Reports* by the Centers for Disease Control, the pregnancy rate for adolescents between 15 and 19 years of age fell 27% to 84.5 pregnancies per 1,000 women between 1990 and 2000 (Ventura, Abma, Mosher, & Henshaw, 2004). During that same time period, pregnancy rates in other developed countries in Europe such as France and Sweden were only 20 to 25 pregnancies per 1,000 women 15 to 19 years of age (Darroch et al., 2001). In the U.S. during 1999, there were 163,559 births among females 15 through 17 years of age, and 312,186 births among females 18 through 19 years of age. This data represents a decrease over the years, but these numbers are still of significant concern. According to Klein (2005), more than 45% of high school females and 48% of high school males have had sexual intercourse in the U.S.

Adolescent pregnancy in the U.S. is a complex issue involving adolescents, their children, families, educators, health care providers, and governmental bodies. Over the decades, research has shown adversities suffered by adolescent mothers and their children. Pregnant adolescents have a higher risk of medical complications than do adult women. These complications include poor maternal weight gain, low infant birth weight,

prematurity, pregnancy induced hypertension, anemia, sexually transmitted infections, and higher maternal and neonatal mortality rates. Other adversities include perpetual poverty, low educational attainment, limited vocational opportunities, separation of family including divorce, and repeat pregnancy. Children born to adolescent mothers have been shown to be at heightened risk of developmental delay, academic problems, behavioral problems, general delinquency including substance abuse, violence and arrest, and finally early sexual debut and becoming adolescent parents themselves (Klein, 2005; Talashek, Alba, & Patel, 2006). Some literature argues that these outcomes are not due to adolescent childbearing itself, but instead they are caused by the socioeconomic and behavioral factors that predispose adolescents to pregnancy (Cunnington, 2001).

Some research, however, has demonstrated that adolescent pregnancy is not necessarily a negative experience for the mother or child. Qualitative studies conducted to examine the positive experiences of adolescent pregnancy and motherhood have shown that having a child forced the adolescent to mature more quickly and become more responsible and competent by caring for another. Having a child was a turning point for many mothers, encouraging them to continue in school and develop a career (Seamark & Lings, 2004).

There have been numerous efforts over the years to reduce adolescent pregnancy. National organizations and programs including the American Academy of Pediatrics, American Medical Association, and Healthy People 2010 have developed guidelines to assist health care providers in preventing adolescent pregnancy. School and community based educational programs including “Baby Think it Over,” “Safer Choices,” and “Reducing the Risk,” have assisted educators, counselors, and various other community

members in preventing adolescent pregnancy. Most guidelines and programs have focused on abstinence promotion and contraceptive use to prevent pregnancy. In reviewing research on adolescent prevention programs, Kirby (1999) found that the most effective programs were those that were successful in delaying sexual intercourse and increasing contraceptive use. Clinic programs have been found to be more successful than other types of pregnancy prevention programs by using more comprehensive multi-component interventions that include both sex education and contraceptive knowledge. However, despite these efforts, adolescent pregnancy in the U.S. is still a major issue (Franklin & Corcoran, 2000; Hillard, 2005; Klein, 2005).

Perhaps previous prevention efforts have not focused on specific predictors of adolescent pregnancy when developing medical guidelines and educational programs. Focusing on a specific predictor of adolescent pregnancy may be a way to assist in prevention by zeroing in on the risk factor and targeting the population at risk. This paper will examine early sexual initiation as one predictor of adolescent pregnancy using the Health Belief Model and will make recommendations for nurse practitioners to assist in prevention efforts.

#### Purpose

Nurse practitioners will be able to provide better screening, education, and counseling to adolescents regarding pregnancy prevention if she or he understands early sexual initiation as a predictor of adolescent pregnancy. This paper focuses on one predictor of adolescent pregnancy found in a review of the literature, early sexual initiation, and uses the Health Belief Model as a theoretical framework to help understand

the correlation between early sexual initiation and adolescent pregnancy. With this insight, practice recommendations for nurse practitioners are discussed.

### Methods

The CINAHL, PubMed, PsycInfo, and ERIC databases were used to search literature published in 1997-2007. Governmental and professional websites, as well as texts were used for supporting information to help explain theories and concepts. Keywords used in the search included adolescent pregnancy, adolescent pregnancy predictors, adolescent pregnancy risk factors, adolescent pregnancy prevention, early sexual initiation, early sexual activity, adolescent sexual behavior, and Health Belief Model.

### Findings: Review of the Literature

#### *Predictors of Adolescent Pregnancy*

In a review of the literature, many predictors of adolescent pregnancy have been identified. Talashek, Alba, & Patel (2006) identified sociocultural, demographic, psychosocial, cognitive, and physiologic risk factors or predictors of adolescent pregnancy. Sociocultural predictors include acculturation, sexual history, and peers' sexual history. Demographic predictors include socioeconomic status, family structure, and educational level. Psychological predictors include adolescent ego identity and health self-determinism. Cognitive predictors include formal operations such as educational attainment and grade point average. Physiological predictors include age at menarche and pubertal changes. As mentioned, early sexual initiation is one sociocultural risk factor shown in the literature to be a predictor of adolescent pregnancy (O'Donnell, O'Donnell, & Stueve, 2001; Talashek et al., 2006).

*Early Sexual Initiation*

Early sexual initiation, also known as early sexual debut, has been defined as sexual initiation earlier than the average age of sexual initiation for adolescents. According to the statistics, this would be sexual initiation before or at the age of 15 years. Research has shown that adolescents are initiating sex, becoming pregnant and giving birth at younger ages than ever (Rose et al., 2005). In 2005, the average age of first intercourse was 17 years for females and 16 years for males; however, one fourth of all adolescents have reported having had intercourse by 15 years of age (Klein, 2005). The U.S. has a substantially higher proportion of adolescents that initiate sex before the age of 15 years than does Canada, France or Great Britain (Darroch et al., 2001). According to the National Vital Statistics Reports by the CDC (2004), in 1999 there were 2.2 pregnancies per 1,000 women and 9,049 births among women 14 years of age and younger. There were 56.0 pregnancies per 1,000 women and 163,559 births among women 15 through 17 years of age.

Research has examined various reasons for early sexual initiation. Pubertal development occurring at significantly younger ages than previous generations has been examined as a reason for earlier sexual initiation among adolescents, suggesting that greater physical maturity and increased hormones levels increase both sexual arousal and motivation. Prevention programs not catering to or targeting the younger adolescent age group, less parental knowledge about puberty and permissive attitudes regarding adolescent sexual activity, and barriers to and less communication about sexual topics are just a few other suggested contributors for early sexual initiation (Rose et al., 2005).

Research has found that early sexual initiation places adolescents at an increased risk of being involved in an unintended pregnancy. Findings have shown early sexual initiation to be correlated with having a greater number of sexual partners and lower levels of condom use (O'Donnell, L., O'Donnell, C., & Stueve, 2001). Contraceptive use among young adolescents is very low. According to the 2002 National Survey of Family Growth, only 66% of adolescents used condoms at the time of first intercourse (Hillard, 2005). In a 2003 survey of high school students reporting that they had had sexual intercourse, only 63% reported using a condom the last time they had sexual intercourse. Many sexually active adolescents who are using prescription contraceptives delay seeing a health care provider for contraception until they have been sexually active for 1 year or more. These findings are of concern because it has been found that 50% of pregnancies occur within the first 6 months of initiating sexual intercourse (Klein, 2005).

Early sexual initiation has been shown to be a predictor of adolescent pregnancy and nurse practitioners can help to prevent pregnancy among the youngest population by using cognitive behavioral theories to understand adolescents' cognitive and behavioral developmental stages.

### *Health Belief Model*

There have been many cognitive behavioral theories used over the years to help understand and explain individuals' behaviors. These theories emphasize the role of cognitive operation upon decision-making processes that underlie and precede the behavior. The Health Belief Model (HBM) first developed in the 1950s by social psychologists Hochbaum, Rosenstock and Kegels is one theory that has been used to help explain and predict health-related behaviors by focusing on the beliefs and attitudes of

individuals. Health care providers have used the HBM to understand health-related behaviors and guide their health promotion practice. The HBM has been used frequently in examining health-related behaviors of adolescents (Wang, Charron-Prochownik, Sereika, Siminerio, & Kim, 2006).

According to the HBM, the probability of a person performing a particular health-related behavior depends on their perceptions of susceptibility to the health threat, the severity of the threat, the benefit to action, and the barriers or cost of the behavior. These perceptions are influenced by internal and external cues to action, and self-efficacy. Perceived susceptibility is defined as one's opinion of their chances of being affected by a health threat, such as getting a disease, etc. Perceived severity is defined as one's opinion of the severity of the health threat. Perceived benefit to action is defined as one's opinion of the efficacy of the action to reduce risk or seriousness of the health threat. Perceived barriers or cost to action can be defined as one's opinion of the costs of the action to reduce risk or severity of the health threat. Cues to action are defined as strategies to activate action or readiness. Self-efficacy is defined as confidence in one's ability to take action (Wang et al., 2006).

#### *Early Sexual Initiation and Adolescent Pregnancy using the HBM*

The HBM has been used to examine health-related behaviors of adolescents related to human immunodeficiency virus (HIV), sexually transmitted infections (STIs) and pregnancy. The model can be used to help understand health-related behaviors that lead to these health threats. When examining early sexual initiation as a predictor of adolescent pregnancy, we can use the HBM to exemplify early sexual initiation as a health-related behavior that can lead to the health threat of pregnancy: (a) perceived

susceptibility: adolescents may not believe they can become pregnant or create a pregnancy the first time they have sex; (b) perceived severity: adolescents may not believe the consequences of becoming pregnant or creating a pregnancy are significant enough to try to avoid; (c) perceived benefits: adolescents may not believe the action of abstaining from sex or using contraception would protect them from becoming pregnant or creating a pregnancy; (d) perceived barriers: adolescents may believe abstaining from sex may make them unpopular, inexperienced, or otherwise open to criticism from their peers.

The HBM exemplifies early sexual initiation as a health-related behavior that can lead to the health threat of adolescent pregnancy. Using this model increases nurse practitioners' understanding of early sexual initiation as a predictor of adolescent pregnancy.

### Discussion

The contribution of early sexual initiation to increased rates of adolescent pregnancy reminds us that pregnancy prevention efforts cannot be reserved for older adolescents. Many pregnancy prevention programs have failed to acknowledge early sexual initiation as a predictor of adolescent pregnancy and there is an inconsistency among the guidelines and programs about when sex education should begin. Nurse practitioners need to direct their pregnancy prevention efforts towards all adolescents of reproductive age to include early adolescence (11-14 yrs). It is recommended that sexual activity screening, comprehensive multi-component sex education, and contraceptive education, counseling and availability begin during early adolescence, and this should be routine across nurse practitioner practices.

*Practice Recommendations for Nurse Practitioners*

The following recommendations are for the nurse practitioner working with adolescents:

1. Routine sexual activity screening for all adolescents of reproductive age to include early adolescence.

Routine sexual activity screening for all adolescents of reproductive age should be conducted at every well child visit or physical. This includes early adolescence (11-14 yrs), middle adolescence (15-17 yrs) and late adolescence (18-21 yrs) if they have gone through pubertal changes and are capable of reproducing (Green, Palfrey, Clark, & Anastasi, 2002). Screening questions to facilitate conversation include “Are you dating or going out with anyone? Have you, are you, or do you plan on kissing, touching, or having sexual intercourse? If you are having sexual intercourse, are you using condoms or any other method of contraception?” Questions such as these have been used in previous studies to help assess adolescents’ risk (Rose et al., 2005). Developmentally appropriate language should be considered with different ages of adolescents. Rephrasing these questions may be necessary for some adolescents such as “Have you ever done it, gone all the way, etc?” Specifically defining some phrases like “having sexual intercourse” may be necessary such as “Having sexual intercourse means the male’s penis goes into the female’s vagina (Burns, Dunn, Brady, Starr, & Blosser, 2004; Green et al., 2002; Rose et al., 2005).”

2. Routine sex education with a comprehensive multi-component approach for all adolescents of reproductive age to include early adolescence.

Routine sex education with a comprehensive multi-component approach for all adolescents of reproductive age should be conducted at every well child visit or physical. This includes early adolescence, middle adolescence and late adolescence. Research has demonstrated that sex education programs with a comprehensive multi-component approach are more successful than other sex education programs (Franklin & Corcoran, 2000; Hillard, 2005; Klein, 2005). A comprehensive multi-component approach includes sex education and contraceptive knowledge. A comprehensive multi-component approach is important for adolescents' to understand their bodies, how pregnancy is caused, and ways to prevent pregnancy. Education should include both the discussion of basic female and male anatomy and physiology, physical maturation and/or puberty, and reproduction including coitus, as well as discussing abstaining from or delaying sexual intercourse and using contraception if the adolescent is sexually active. As educators in health promotion and illness prevention, and to aid in the adolescent pregnancy prevention efforts, nurse practitioners are responsible for making sure adolescents receive sex education with accurate information (Burns et al., 2004; Green et al., 2002).

3. Routine contraceptive education, counseling and availability for all adolescents of reproductive age to include early adolescence.

Routine contraceptive education, counseling and availability for all adolescents of reproductive age should be provided at every well child visit or physical. This includes early adolescence, middle adolescence and late adolescence. Discussion should include barrier methods such as male and female condoms, hormonal methods such as oral contraceptive pills, the ring and the patch, and emergency contraception such as Plan B. Discussion should also consist of when to use the various contraceptives, how to use

them correctly, degree of effectiveness if used properly, and how or where to get them. The adolescent should be informed that contraception is readily available by contacting a clinic or provider (Burns et al., 2004; Franklin & Corcoran, 2000; Green et al., 2002; Hillard, 2005; Klein, 2005).

#### Implications for Nurse Practitioners, Nurse Educators and Nurse Researchers

Nurse practitioners will better understand early sexual initiation as a predictor of adolescent pregnancy and utilize these practice recommendations to routinely screen, educate, and counsel all adolescents of reproductive age to include early adolescence aiding in the pregnancy prevention efforts. Nurse educators should include this discussion and resulting practice recommendations in nursing program curricula. Staff educators in practice settings can offer this education to nurse working with adolescents to aid in the pregnancy prevention efforts. Nurse researchers need to evaluate these practice recommendations as to their efficacy, feasibility, and association with pregnancy prevention outcomes.

#### Conclusion

Despite efforts over the years to prevent adolescent pregnancy it is still a national public health concern. U.S. pregnancy and birth rates have decreased since the 1990s, but we still have the highest rates among the industrialized world. Adolescent pregnancy remains of concern due to the adversities suffered by some adolescents and their children, and its effects on society as a whole. There have been numerous predictors of adolescent pregnancy identified in the literature, including early sexual initiation. Early sexual initiation is becoming more and more prevalent and deserves more attention as we work towards pregnancy prevention in adolescents. The relationship between early sexual

initiation and adolescent pregnancy can be explained through the Health Belief Model, understanding that health-related behaviors such as early sexual initiation can lead to health threats such as adolescent pregnancy. Understanding early sexual initiation as a predictor of adolescent pregnancy and utilizing the practice recommendations in this paper, nurse practitioners can help provide better screening, education, and counseling regarding adolescent pregnancy prevention.

Table:

*Practice Recommendations for Nurse Practitioners*

Routinely screen for sexual activity among all adolescents of reproductive age to include early adolescence (11-14 yrs)	<p>Screening questions to facilitate conversation and assess adolescents' risk:</p> <p>“Are you dating or going out with anyone?”</p> <p>“Have you, are you, or do you plan on touching, kissing, or having sexual intercourse with anyone?”</p> <p>“If you are having sexual intercourse are you using condoms or another kind of birth control method?”</p> <p>*Developmentally appropriate language must be considered with different ages of adolescents.</p>
Routinely provide comprehensive multi-component sex education for all adolescents of reproductive age to include early adolescents (11-14 yrs)	<ol style="list-style-type: none"> <li>1. Teach adolescents about their bodies and how pregnancy is caused. <ul style="list-style-type: none"> <li>-Basic female and male anatomy and physiology: breasts, vagina, uterus, cervix, penis, scrotum, testis, arousal, ejaculation, etc.</li> <li>-Physical maturation/puberty: Tanner Stages, i.e. breast development, pubic hair, genital enlargement, menses, etc.</li> <li>-Reproduction: coitus, sperm vs egg, embryo, fetus, birth, etc.</li> </ul> </li> <li>2. Teach ways to prevent pregnancy. <ul style="list-style-type: none"> <li>-Abstinence if not sexually active.</li> <li>-Delaying sexual intercourse if not sexually active.</li> <li>-Using contraception if sexually active.</li> </ul> </li> </ol>
Routinely provide contraceptive education, counseling and availability for all adolescents of reproductive age to include early adolescents (11-14 yrs)	<ol style="list-style-type: none"> <li>1. Teach different kinds of contraceptives. <ul style="list-style-type: none"> <li>-Hormonal: OCP, ring, patch, Plan B, etc.</li> <li>-Barrier: male and female condoms, etc.</li> </ul> </li> <li>2. When to use the contraceptive.</li> <li>3. How to use the contraceptive.</li> <li>4. Degree of effectiveness if used properly.</li> <li>5. Where/how to get the contraceptive.</li> </ol> <p>*Inform adolescent contraceptives are readily available by contacting a clinic or provider.</p>

Burns, Dunn, Brady, Starr, & Blosser, 2004; Franklin & Corcoran, 2000; Green et al., 2002; Hillard, 2005; Klein, 2005; Rose et al., 2005.

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